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Peace River

An Empire in the Making

Being a series of articles in the Edmonton Journal based in part on a 3,000-mile tour of Alberta's northern hinterland with Hon. J. E. Brownlee, Premier of Alberta and Dr. R. C. Wallace, President of Alberta's University; and with a further background of four earlier visits to closer in portions of Peace River.

By

JOHN M. IMRIE

Managing Director, The Edmonton Journal

THE EDMONTON JOURNAL

Edmonton, Canada

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Foreword

By HON. J. E. BROWNLEE

Premier of Alberta

AMONG the various movements of Canadian life and thought during the past few years none have made a greater appeal to the imagination than that which has sought to find in the northern parts of Canada the possibilities of first,—industrial development based on mineral wealth, and secondly,—agricultural expansion and home-making. The search for mineral wealth has engaged the attention of capital throughout the world. It has brought the aeroplane to the assistance of the geologist and prospector. It appeals to the adventurous spirit of man, and largely because of that appeal our people confidently await the development of that wealth which, they feel, undoubtedly exists.

The possibilities of agricultural development very far north, however, have not so readily been accepted. The settlement of Western Canada and the growing of wheat, township by township, farther north has developed in opposition to a very substantial doubt and scepticism. Nevertheless it has pressed steadily forward and the rapid settlement and expansion of the Peace River country has aroused now a broad world interest, particularly among agrarian home seekers. Today this settlement has reached the Battle River prairie and is reaching out toward the Prairie of the Keg.

~~Very~~ In order to form a first-hand impression of the possible agricultural development in the areas still further north, as well as to examine its mineral resources, in company with Dr. R. C. Wallace, president of the Alberta University, Mr. J. M. Imrie, managing director of the Edmonton Journal and Mr. R. G. Dinning, prominent in the civil service of the province, I travelled some three thousand miles by rail, river, aeroplane, road and trail. In the articles following, Mr. Imrie has voiced some of his conclusions, formed after restless, painstaking and exhaustive enquiry. I confidently recommend these articles as conveying an accurate impression of this great northern land and believe they will prove an extremely valuable contribution to the store of information at present available as to its potentialities.

To those who may read these articles with some of the doubt that has followed agricultural settlement northward, I can only voice my own conviction that we are only beginning to appreciate the amazing ripening power of the long hours of sunlight in the north. I believe I voice the deliberate opinion of the members of the party that only a comparatively few years will witness a sound and substantial production of agricultural products as far northward, at least, as the northern boundary of this province.

J. E. BROWNLEE.

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August 29 to September 9, 1929.

Farm Homes For a Million People

FARM homes for a million people — agricultural production exceeding that of all western Canada today—and both accomplished facts within his own life time. Such is the vision of Peace River's development that came this summer to Hon. J. E. Brownlee, premier of Alberta as he completed a 3,000-mile tour of the Peace and Slave River countries and still farther northward to the shores of Great Slave lake. Equally striking were the reactions upon Dr. R. C. Wallace, president of the University of Alberta and two others who accompanied the premier on his northern journey.

The personnel of the party and the thoroughness of advance arrangements provided unique opportunities for observation and enquiry. Aeroplane, gas boat and buck board were used to visit areas far removed from railroad steel and motor highway. Hundreds of pioneer settlers were interviewed and large demands were made upon the knowledge and experience of fire rangers and other government employes, of those in charge of the Hudson's Bay Co. outposts, and of independent trappers and traders. What was seen and heard under such conditions constituted an astonishing revelation of a Peace River country that is infinitely more vast in its potentially productive areas than had been visualized even by the premier of the province most vitally interested, let alone by other members of the party.

How shall the picture be reconstructed for those who have not seen it? Mere statistics are wholly inadequate. The truth may be the better conceived by comparison.

Peace Is Loveliest of Rivers

Consider first the river that gives to this great country its restful and alluring name. Rising in the trench of the Rockies, close to the centre of northern British Columbia, it pours its

turbulent waters for a hundred miles through majestic mountain passes and canyons. Emerging from the last of these at Hudson's Hope, B. C., it winds its way more slowly and peacefully for another 700 miles through a rich agricultural plateau.

Superimposed on the St. Lawrence, and its course straightened in conformity therewith, the Peace would stretch from the end of Lake Ontario away eastward to beyond Gaspé Peninsula. Nor is that comparison lacking in respect to the mightiest of Canada's rivers. Warburton Pike, explorer of countless streams and lakes, has termed the Peace the loveliest of northern waters and this must be the view of all who travel long upon its bosom. This varies in width from a quarter of a mile at Hudson's Hope to over a mile at Vermilion Chutes, and at many points beyond. It is freely orientated by tree-crowned islands and for half its course its banks—wooded for the most part—are 800-feet in height. From these, behind Peace River town, may be had a panoramic view fully comparable to that from the citadel of Old Quebec.

Great Stretches of Farm Land

But it is with the 700-mile portion of the Peace that flows through agricultural country that this article is chiefly concerned. In passing it may be recalled by way of comparison that equal distances in a straight line are those from Winnipeg to Edmonton and from Windsor to Quebec.

Federal government statistics put the area of Peace River's agricultural country at 47,000,000 acres. These also set its boundaries at the 59th parallel on the north and longitude 114 on the east. But in both directions good agricultural land extends much farther. On this point the evidence is complete and indisputable.

Some authorities have placed the total area of good land at 100,000,000 acres. That is probably over-generous. On the other hand the federal government's estimate is quite conservative.

Double Ontario's Farm Acreage

Taking then this lower figure, just what does the term "47,000,000 acres" really signify? Ontario, with an annual agricultural production running around \$500,000,000, is using less than 25,000,000 acres for all purposes. In the three prairie provinces combined over 500,000,000 bushels of wheat were produced last year from 22,500,000 acres.

Nor does the comparison end there. Three world championships in wheat, one in oats and one in peas, attest the peculiar fitness of Peace River's soil and climatic conditions for high quality production. As to volume, Peace River usually passes all other large areas in yields per acre. This year its average yield in wheat will be more than double that of the prairie provinces as a whole.

By no means all of Peace River's agricultural land is at the moment ready for cultivation. Part is heavily wooded, part is muskeg, part is swampy. But the major portion is prairie or easily clearable bush. As for the rest, the wooded land is often even more productive than the prairie. As it is cleared and cultivated nearby muskegs will dry up and swampy land will become rich hay meadows.

Unique Climatic Conditions

The geographical location of Peace River is the greatest obstacle to popular appreciation of its agricultural possibilities. Ontario's great farm belt lies south of the 47th parallel. In Manitoba no one would think of farming north of 53. In Saskatchewan there is practically no agricultural settlement north of 54. Little wonder then that people of these and other parts of Canada find it hard to visualize extensive agricultural development in a country that starts at latitude 54 and extends northward to 61.

The explanation is partly geological. The pre-Cambrian shield, rich source of Canada's new mineral wealth and outlook, is constantly working northward in its westward stretch from Quebec to Saskatchewan. It penetrates only the northeast corner of Alberta. But the great fertile belt of the

prairie provinces that steadily widens as it crosses Manitoba and Saskatchewan, swings sharply northward after reaching Alberta and continues up to and beyond the northern boundary of that province. This gives to Alberta, alone among all the provinces of Canada, a vast agricultural country in the north, side by side with its portion of the pre-Cambrian shield.

Unique climatic conditions provide a further explanation. In the growing summer season there are but one to three hours of darkness in these northern latitudes. Long days of bright, warm sunshine hasten the ripening of the crop. Lower altitude and more regular precipitation are other beneficent factors. To this favoring influence of nature has been added the work of man in blending various strains of seed to produce early ripening and frost resisting varieties. Thus wheat matures in the Peace River country 10 to 20 days earlier than in central Alberta, and barley, oats and vegetables ripen even more rapidly than wheat.

Another difficulty in visualizing Peace River is the comparatively narrow width of southern Alberta. This does not suggest so wide a stretch of country as really constitutes Alberta's portion of Peace River. But Alberta's western boundary steadily swings westward, paralleling the Rockies. Thus in the latitude of Peace River Alberta is more than twice its width at the international boundary.

The gardens of Peace River were a particular inspiration to Premier Brownlee and his party. Beautiful, luxuriant and prolific in the upper and older sections of the Peace they were even more so still farther north. Perhaps the best in variety, size and quality of product, were those at Fort Vermilion and Fort Smith, in latitudes 58 and 60, respectively. Displays of growing vegetables at the former were fully equal in variety and quality to old Ontario's best. Strawberries, raspberries and other small fruits attain large size and delicious flavor under cultivation, and in their wild state are found in great profusion over widely scattered territory.

Inestimable Potentialities

Who shall estimate the potentialities of such a country? When its density of farm population has attained even the present low average of Alberta, it will be sustaining well over a million people on its farms alone. This makes no allowance for concurrent urban or mineral development, nor for the much more intensive farm settlement of which it would still be capable as the rest of Alberta is today.

But potentialities are quite insufficient in themselves. What then are the prospects for early, wide-spread development?

Events move quickly in western Canada. Alberta in her 24th year as a province has attained a record of \$330,000,000 in value of agricultural production. Already Peace River is producing more than all Alberta did 24 years ago. In this year of below-average crops elsewhere, Peace River will contribute one-tenth of Alberta's total wheat. It is a safe prediction that well within 10 years Peace River's wheat production will exceed that of all Alberta this year.

For scenes of the great pre-war immigration period are being reproduced in Peace River today. Settlers are flocking in as to no other district in Canada since pre-war days. New areas are being opened up and fully homesteaded in a single season. Towns of a hundred buildings exist where native grasses grew a year ago.

Peace River Comes Into Its Own

AT THIS long last the Peace River country shows unmistakable signs of coming into its own. First to demonstrate—over a century ago—the productivity of Alberta's soil, it has had to "stand by" these many years while other closer-in areas were being wholly or partially settled. But today it is experiencing a surge of settlement comparable in intensity, in its more limited area, to that which swept over the prairie provinces in the decade preceding the war.

Homestead and soldier grant entries tell part of the story. Of the former there were 8229 and of the latter 447 during the 19 months ending July 31, 1929. More than half of these are by single men, but wives and children of those who are married make the new population thus represented at least 25,000.

Two other classes of new farm settlers are not included in these figures, viz, those who have bought land instead of homesteading, and those who have squatted in unsurveyed territory. The former group has been swelled through the sale of several Indian reservations and many parcels of school lands; while squatters have taken up whole townships in each of several districts.

New Population of 30,000

Taking in all four classes—homesteads, soldier grants, bought land, and squatted territory—the number of new locations in the last 19 months may be conservatively estimated at 10,000 representing a new population of 30,000. That is more than the total farm population of the Peace River country at the end of 1927.

Not all of this new population is already settled in Peace River. Many who found locations there this year have "gone

out" to close up their affairs elsewhere, and will return in time to prepare some land for next year's crop.

Consider now what this means in new land about to be brought under cultivation. Homesteads, soldier grants, and squatter locations are in 160 acre units. Parcels of bought land average somewhat higher, but as accurate figures are not available must be given the same smaller unit. On that basis these 10,000 new locations represent 1,600,000 acres of land. That almost equals the total area taken up for agricultural purposes in the whole of the Peace River country at the end of 1927. It is equivalent to a solid strip 14 miles wide from Edmonton to Calgary, or from Toronto to Sarnia.

Old Frontiers Are Pushed Back

The rapidity and spotted distribution of this new settlement are playing some pranks with Peace River. It has no longer any fixed frontier. Its fringe of settlement has become highly irregular and is constantly changing. Certain districts that were practically unoccupied two years ago have better public services today than others that were partially settled several years earlier.

Take for instance Battle River Prairie, away to the north-west of Peace River town. Two years ago only 100 occupied homesteads were scattered widely over its 600 square miles of table land. Today the number is 800, and many good souls with strong pioneer instincts have passed beyond through 30 miles of bush to Keg River Prairie. That in turn will be fully occupied next year, and a new frontier will be established in the general direction of Hay River Post. As a matter of fact, the recent settlement in Battle River Prairie is in itself in part an overflow from Clear Hills and Weberville districts, where 400 homesteads have been taken up during the past two years.

Another case in point is the country between the Smoky River, 25 miles east of Grande Prairie, and the Little Smoky, 50 miles farther east. Two years ago the Smoky marked the eastward frontier of settlement. Only 30 pioneer farmers had ventured beyond it. Then came a new movement centring

around De Bolt, 15 miles east of the river. Soon the eastward fringe was pushed back another 30 miles to Valley View. Today these two districts have 400 occupied farms and an estimated population of 1,500. This is being added to almost every day as one or more trek in from Grande Prairie or Sexsmith. Pioneer settlers and trappers predict that the movement here will continue until 5,000 farms are occupied and 25,000 people are located between the two Smokies.

Beyond the British Columbia border in what is known as Peace River block another irregular penetration is under way. It began two years ago in the settlement of odd quarter sections in the immediate Pouce Coupe, Rolla and Dawson Creek districts. It soon overflowed westward to Sunset Prairie and, north of the Peace, it is spreading away beyond the limits of surveys, out to Blueberry River and along the old Fort Nelson trail. Close to 2,000 new homesteads have been filed on in Peace River block these last two years, and many more are held under squatter's rights. Although this year's filings greatly exceed those of last year and have as yet but little reflection in actual resident population, government officials at Pouce Coupe estimate that this has increased in two years from 1,600 to 4,000.

Still another changing frontier is to be found north of the Peace on the old trail westward from Peace River town. But two years back the outer fringe was at Hine's Creek, 25 miles northwest of Fairview. It was quickly pushed back to Montagneuse River, another 15 or 20 miles. Today new settlers are squatting away west of the Clear Hills, 60 to 75 miles from the nearest railway steel at Fairview. In this new stretch from Hine's Creek westward some 600 homesteads have been filed on since the beginning of 1928, and a large but uncounted number have squatted on unsurveyed land.

Wooded Land Being Cleared

Quite a different type of changing frontier may be seen due west of Woking, 10 miles south of Spirit River, and contiguous to the main railroad line between that point and

Grande Prairie. This country, being fairly heavily wooded, was passed over in the earlier movements in favor of prairie or more easily clearable land. But last year a few homestead filings were made and already two whole townships and part of a third have been taken up and an overflow is working westward into unsurveyed territory. Settlement is too recent to permit of any substantial harvest this year, but large patches of stump strewn land and others where breaking also has been done, attest the rapidity with which the work of changing heavy bush into cultivated soil is proceeding.

Another similar development is in process west, north and east of Spirit River. There, within 20 miles of rail and other town facilities, 250 homesteads have been located these last 18 months. Still farther westward beyond that 20 mile limit new squatters are scattered almost to the British Columbia boundary, 25 miles farther west. Indeed, as the boundary is approached, the number of squatters increases, many having come in at the opposite end from Pouce Coupe, B. C., and Rolla, B. C.

Far away to the north in an area all by itself stands Fort Vermilion, 280 miles down the Peace from the nearest rail head at Peace River town. Until two years ago it was indeed the last outpost of agricultural settlement in the whole valley of the Peace. Its score or so of farmers shipped their surplus products "down north" to the Hay River and MacKenzie River posts instead of "outside" to Vancouver or Fort William. But even here old frontiers are being shattered and new ones established. Over 200 homesteads have been taken up, although only 60 have reached the stage of having land to crop this year. The other 140 are scattered to all points of the compass—advance guards of the many more who will soon join them. For these there is abundance of room, as the Fort Vermilion district is the largest of all in the whole Peace River country—a district in which the entire present settlement north of latitude 54 could be accommodated many times over.

Thus might the new tide of settlement be traced to every portion of the closer-in section of the vast Peace River country. Substantial as it is it represents in new land but four per cent of the good land still remaining.

New Towns Springing Up

In the wake of this agricultural development new towns are springing up and older urban settlements are being greatly enlarged. Most notable among these is Hythe, present end of steel beyond Grande Prairie. There a town of 150 buildings stands today on land that was absolutely bare a year ago. It proudly boasts one of the best hotels in the whole of Canada's northland, a hotel where many rooms have private baths and other appointments are in keeping.

Fairview and Beaver Lodge are other quite substantial towns of only a year's growth. To each of these, as to Hythe, the railway came a year ago. But the old village sites were abandoned and brand new towns of very much larger size were built. Grande Prairie, Sexsmith, Peace River, Grimshaw and many other older towns are feeling the growing pains that have attacked the whole Peace River country.

Grain elevators are another barometer of progress in an agricultural area. Six years ago there were only 22 of these in the Peace River district; today there 124.

Such movements as Peace River is now experiencing are usually cumulative. In this case that tendency will be accentuated by the bountiful crop Peace River is presently harvesting in a year of relatively small yields in every other large area of the west. Next year should see a record breaking influx, pushing still farther back the boundaries of northern agriculture.

Truly Peace River is at last coming into its own.

Pioneering "De Luxe" in Peace River

IN a comparative sense it is "pioneering de-luxe" that is going on in various parts of the Peace River country today. No other new area in Canada has seen highways and other public services follow so quickly upon a new flow of immigration.

This new experiment in colonization has a two-fold motive. Fundamentally it springs from a humanitarian impulse. As Alberta's premier stated at a Peace River outpost a few weeks ago, there has developed among the older settlers of this province a great impatience with any system that leaves large pioneer settlements for long periods without those services and conveniences which they have found almost a necessity. Its other aspects are economic. It aims at the retention of settlers already here through lessening the hardships and feeling of isolation that in other pioneer areas have caused discouragement and partial exodus. It seeks also to attract others by the magnet of modern conveniences in a new land of unparalleled productivity.

Great Variety of Public Services

Consider again the case of Battle River Prairie into which over 700 homesteaders—many with families—have gone these last 18 months. From the end of older roads a few miles north of Grimshaw they struggled with their goods and chattels, 50, 60 and some of them 75 miles, over an old wagon trail cut for the most part through fairly heavy bush.

Quickly following that migration the provincial government is presently building a main 18 foot highway to the very heart of the new settlement. Its specifications are identical with those of main dirt roads in older communities, save for a difference of four feet in width. Started on June 12 last it will be completed by September 15 to Mile 58 where a 250 foot steel bridge is being built to carry the highway across the Notikewin river on its way still farther north.

Educational facilities also are being supplied. One school was built and used last spring and three other school districts are now in process of organization.

A physician, subsidized by the provincial government, is already supplying the medical needs of this new community, and spiritual aid and comfort are provided by one regular and one itinerant clergyman.

Soil surveys are being made by a provincial university party; a fortnightly mail service has been established and estimates for a telegraph line from Peace River town have been passed.

Surely no other pioneer area in Canada has received such a variety, extent and efficiency of public services at so early a stage in its development.

Contentment on Every Hand

What has been the effect upon the people of Battle River Prairie? Picture 150 of them gathered this summer on the banks of the Notikewin to welcome the first premier of Alberta to travel that far north during his term of office. There was no mendicant plea for added services. Instead, through their chairman, they acknowledged having received far more than their share, far more than they had deserved, and sincerely thanked the government for coming so quickly to their assistance.

Their attitude is reflected also in the vigor with which they have attacked the breaking of new land. Four months ago, before the highway was started, only one venturesome settler had brought in a tractor. Today there is a tractor "population" of 21. Over 7,000 acres have been broken this summer by tractor alone, and horse and man power have accounted for several thousand more.

Another illustration of this new policy is to be found in what is going on between the two Smokies, away east of Grande Prairie. Here 400 farms are occupied, instead of 30 two years ago, and another 5,000 farms are available for homestead entries.

When Premier Brownlee and his party visited this district on July 30 last, their course from the Big Smoky eastward

was over a new main highway still in process of construction. At De Bolt, they met 150 new settlers in a community hall 30 by 60 feet that was as yet barely completed. The meeting had been convened partly by rural telephone calls over a provincial government line that had been ready for service only a week before.

Such, in comparison with the conditions under which older communities in Alberta and other provinces were settled, is truly "pioneering de luxe."

Highways Have New Status

But these new services are likely to find a complete justification even from the strict economic standpoint. They will unquestionably promote contentment and that confidence in the future which is conducive to home building and intensive farming.

With the development of motor traffic, highways are much more essential than when farm products were taken to market by horse drawn vehicles. To a limited extent they now take the place of branch railroads. Little of the grain of Pouce Coupe, for example, comes out by wagon to rail head at Hythe. It is practically all transported by motor truck. Given a good motor highway, this change in transportation methods has made 45 miles from a railroad station almost, if not quite, as close from an economic standpoint as half that distance 20 years ago.

Highways in the Peace River country are promoting the settlement of wooded land through which they pass to reach the prairie areas of present settlement. Two striking illustrations of this are to be found in the Nampi area, 12 miles south of Peace River town, and in the vicinity of Woking, an equal distance south of Spirit River. Both areas, being heavily wooded, were passed over by incoming settlers until a few years ago. Now the main Peace River highway traverses them, and they are being rapidly cleared and placed under cultivation.

Similarly, the new highway to Battle River Prairie will promote settlement on the 40 miles or more of bush country through which it passes to Peace River's "farthest north."

Thus proceeds the "thickening up" of settlement, the link-

ing together of prairies by the cultivation of intervening bush land. In the extension of that process—so necessary from an economic standpoint—the new highways, built primarily to serve far distant prairie areas, will play an increasingly important part.

Nor is the new experiment in colonization likely to stop with the specific public services mentioned in this article. Indeed, in other areas, there are already other forms of public services, such as hospitals, public health nurses and traveling medical and dental clinics. It is an open secret that further and far reaching plans are a matter of present consideration by the provincial government, following Premier Brownlee's return from his northern tour. But that is a story for the premier's own telling when the time has fully come.

Balanced Development in Prospect

MINERAL development in the far north of Alberta and in the North West Territories beyond is likely to hasten materially the agricultural settlement of the Peace River country. It will also provide a balanced development and a home market for farm products in Alberta's northern hinterland.

Already there is talk of a new railway from Peace River town 400 miles northward to the shores of Great Slave Lake. Its route would follow the present line of agricultural settlement through Battle River and Keg River prairies. Thence it would go either due north via Hay River Post or north and east via the Fort Vermilion country. For the first section of such a railroad, into and beyond the Battle River prairie, a federal charter was granted last spring to the C.N.R. and the C.P.R., jointly.

Lead and Zinc Deposits

The immediate objective of a railroad to Great Slave Lake would be the lead and zinc deposits near Pine Point on the south shore. These were inspected by Premier Brownlee and his party on their northern tour in August. The story of their original discovery and subsequent development is interesting.

Back in 1898, when gold seekers were pushing overland from Edmonton to the Klondike, a party approaching the shores of Great Slave Lake stumbled over outcroppings and scattered float of lead and zinc ore. They staked some claims but did no development work. Their story attracted others and several restakings of these and first staking of other claims took place during the period down to 1914. It was then that parties associated with the present owners secured possession but, the great war intervening, there was no development work until 1920. During that and the subsequent year enough was done to demonstrate the presence of rich deposits over a fairly extensive area.

But Great Slave Lake was then even farther away in the minds of men of affairs than today. Canada had not yet developed her new psychology in relation to the north and there was no hope of early transportation facilities, without which the commercial development of even a rich deposit was impossible.

But in 1928, with the new interest in northern mineral development as a background, a real start in exploratory work was made. This has continued throughout the past summer and some 25 men are presently engaged. Three shafts have been sunk to depths of 35 feet, 51 feet and 65 feet respectively. Each of these and all but two or three of many shallower and widely scattered penetrations, have disclosed indications of rich deposits.

There still remains to be demonstrated the depth to which these deposits go and their approximate tonnage. To this end a churn drill is now en route to the property and another nine or twelve months should tell the story.

As to the richness of the deposits there is no doubt. This has been clearly demonstrated by many assays. It is now simply a question of whether the tonnage is sufficient to secure transportation facilities.

Large Interests Involved

The standing of those who are financially interested and the extent of their operations justify a large measure of confidence in the ultimate result. Northern Zinc and Lead company, as the operating concern is called, represents a pooling of efforts by the Atlas Corporation of Ottawa, the Great Slave Lake Trust of Boston, the Consolidated Mining and Smelters Corporation of Trail and Ventures Limited of Toronto.

But it is not on these deposits alone that expectations of a railroad to Great Slave Lake are founded. The four groups already mentioned are co-operating in exploratory work at many other points in the hope of disclosing other ore tonnage to augment that represented by the zinc and lead deposits and thus strengthen their case for railway connection with Peace River.

Ample Power Available

Power development also is being investigated. Prominent hydraulic engineers have checked this summer, potential power developments at Alexander Falls on the Hay River, Buffalo River Falls, and the series of rapids between Fort Fitzgerald and Fort Smith. Their reports have not been made public, but it has been intimated that at one or another of these, ample power for a large mining and concentrating development may be generated.

Nor is it only on the shores of Great Slave Lake that mineral development, likely to hasten the agricultural settlement of the Peace River country, may take place.

In the eastern portion of that country, just south of the northern boundary of Alberta, are large deposits of salt and a number of flowing salt wells. These may be developed for their salt alone, but their potentialities may be much greater. Potash is sometimes found in close association with salt and under the conditions existing in this area. That explains the presence of a number of geologists and prospectors in the northeast corner of Alberta this summer. Part of this work is being done by those who have pooled their interests in the lead and zinc deposits and partly with the hope that potash deposits will supply further tonnage as an inducement to railway companies to build into the far north of the Peace River country.

Two other inducements remain. One is the almost unlimited supply of whitefish and trout in Great Slave Lake—a virgin fish preserve exceeding in size either Lake Ontario or Lake Michigan, and standing third among all the lakes in America. The other is the speeding up by over three weeks of transportation connection with the MacKenzie River and points in its watershed north of Great Slave Lake. This is possible because ice leaves the western portion of Great Slave Lake and the MacKenzie River some three weeks before navigation is open on the eastern portion of the lake and the Slave and Athabaska Rivers that presently connect with railhead at Fort McMurray.

Will Hasten Agricultural Settlement

Assuming for the moment that present exploratory work will disclose sufficient tonnage to justify, in conjunction

with agricultural possibilities en route, a railway to Great Slave Lake, what effect would such a railway have upon the agricultural development of the Peace River country?

Heretofore branch railways into agricultural areas have for the most part followed settlement. Pioneer settlers have had to blaze the trail and give at least a reasonable promise of substantial tonnage. This would be a case of railway preceding agricultural settlement into the major area of the great Peace River country—an area into which the settled portion of the Peace today could be placed many times over. For the lower Peace River country is approximately 300 miles wide by 150 miles deep and the area of good land within is an empire in itself.

The picture is almost staggering. That best describes its effect on Premier Brownlee and his party as they viewed it first from the south at Battle River prairie, then from the east at Fort Fitzgerald, and finally from the north on the shores of Great Slave Lake. Only those who have seen it from these many angles can have any adequate conception of its extent and economic possibilities. Seen thus it emphasizes anew and on an infinitely larger scale the greatness of the heritage Alberta has in her northern hinterland, and the great part that heritage must play in the economic development, not of that province alone, but of Canada as a whole.

"Main Street" of the North

OF THE 1,600-mile waterway between Fort McMurray, Alberta, and the mouth of the MacKenzie, it has been said: "This is the main street of the north where everyone knows everyone else."

Until two or three years ago, both the designation and the statement of mutual acquaintance were approximately correct. Athabaska, Slave and MacKenzie rivers, with their enlargements into Lake Athabaska and Great Slave Lake, constituted the only artery of travel between Fort McMurray and the Arctic. Practically all white settlements were on this waterway and everyone who dwelt thereon kept tab on those who went "down" and those who went "out" and whither they were destined.

But mineral exploratory work and the development of aeroplane transport have brought about a new era in the MacKenzie district. Population is no longer concentrated upon its waterway. Isolated groups are working at many scattered points far to the east and far to the west. In many cases neither their location nor their identity is known. For they have gone in by aeroplane with their destination the guarded secret of a trusted pilot and a high official of the company they serve.

But in the far north, information travels rapidly and mysteriously. The so-called "mocassin telegraph" is swifter and more accurate than many messages that go over copper wires or radio waves. Minerals constitute today the chief topic of conversation between Fort McMurray and Aklavik, and high hopes are founded on the extensive character and distribution of exploratory work over this wide area last year and this.

Aeroplanes Aid Development

It is largely aeroplane transportation that has opened up the MacKenzie district to mineral development. Distances are so great and areas without white settlement so large

that far flung explorations under the old methods would be slow, laborious and dangerous.

This is strikingly illustrated by the contrast in time required by two types of explorations this year into the Nahanni country north of the Liard river. The first, by land, and water, occupied four months. The second, by aeroplane, took an equal number of days.

Already this year over 75,000 gallons of gasoline have been shipped beyond Fort Smith into the MacKenzie district. That is four times the volume of four years ago. The increase is chiefly in aeroplane gas.

One Firm Has Ten Bases

Such work as has reached the stage of claim staking may be traced at least to the extent of its location. This must be registered at the capital of the northwest territories just over the Alberta boundary at Fort Smith, and such registrations are open for public inspection. From these and what one hears from sources of some authority one may at least make out the general directions of present effort.

Dominion Explorers, limited, is the most aggressive of company explorers in the MacKenzie watershed. It has established gasoline bases at Stoney rapids on the east end of Lake Athabaska, at Fort Reliance and Fort Rae on Great Slave lake, at Fort Simpson, at the mouth of the Laird river, at Fort Norman at the mouth of Bear river, at Fort Good Hope on the lower MacKenzie, at Fort McPherson on Peel river, at the mouth of the Western river and at Peterson bay. At three of these points this company is locating its own wireless stations.

Consolidated Mining and Smelters corporation stands second in number and distribution of exploratory bases. It is particularly active in the Great Slave Lake area. In certain work there, its efforts are pooled with those of the Atlas corporation of Ottawa, the Great Slave Lake Trust of Boston and Ventures, limited, of Toronto. Other exploration companies in the same area are the Northern Syndicate of Calgary and Cyril Knight company of Toronto.

Besides all these, a host of private prospectors are widely scattered over the MacKenzie district. Hardly a boat comes out from the north but carries one or more of these with his canvas bag of samples.

One large exploration company has adopted a novel plan of converting traders and trappers into amateur part-time prospectors. Such are given samples of mineralized ore and coached regarding the physical features of the country in which finds may be anticipated.

Five Main Areas

Some who claim to know, pick four specific areas, as being the most promising in the MacKenzie district. These are: (1) along the eastern part of Lake Athabaska; (2) on the shores of Great Slave Lake; (3) south and east of Great Bear lake and (4) southwest of Aklavik in the watershed of Peel river. In the latter, according to the "moccasin telegraph," eighteen men are at work for one company alone. In addition, in the upper Peace River country, there are coal deposits near Hudson's Hope and known areas of mineralized ore in the watershed of the Findlay river.

Of the presence of rich mineral deposits at many points in the MacKenzie district there is no longer any doubt. Assays have established this beyond all question. There remains, however, the problem of locating such quantities of mineralized ore as will overcome the handicap of long distance from transportation facilities.

New Railways Forecast

When and from where will the railway come in? That is the question frequently asked at MacKenzie district posts. Already lines of steel are being visualized as a new artery of traffic. Here is the composite answer to that question, as given by those who ask it and for what it may be worth.

If the first area of commercial development should be around the east end of Lake Athabaska the A. and G.W. division of the Northern Alberta railways is picked as the favored railway through an extension from Fort McMurray. That line is said to have a chance also if Great Slave lake should be the area, although in that case an alternative route would be almost due north from Peace River town. If the Great Bear lake district should come in some foresee a line across from Fort Churchill, others a shorter line from the head of Chesterfield inlet, others again an extension farther northward of a line from Peace River town to Great Slave lake.

As for the area southwest of Aklavik, those who build railways on paper in their humble dwellings in the north, are plotting an extension of the White Pass railway that presently runs from Skagway, Alaska, to Whitehorse on the banks of the Yukon.

Of course, it all seems very visionary to one on the outside. To many down north who know that hundreds of thousands—perhaps millions—have been spent last year and this in mineral exploratory work, the possibilities seem infinitely greater.

Time alone will tell. Much more remains to be done before any substantial ore bodies can be actually blocked out. It may be, however, that those conditions which led to railway extensions to the mining areas of northern Ontario and northern Manitoba, will be duplicated in the Athabaska and MacKenzie districts. In addition, the minerals of Findlay River district and those farther west, coupled with the agricultural possibilities of the Peace River country may in time bring in a new railway from Stewart on the tidewater of the Pacific, not to mention an earlier agricultural outlet via Vancouver.

Gasoline From Tar Sands

Meanwhile, the much closer in tar sands of Fort McMurray are receiving a new and enlarged interest and giving much brighter promise of early utilization. This is due in part to recent co-ordination of effort between dominion and provincial governments, and in part to the commercialization of a new process of extracting gasoline that is peculiarly adaptable to such deposits.

It is now sixteen years since the federal department of mines began its research work with these sands and nine years since that of the research council of Alberta was started. During these respective periods each body had its men at work year after year but independently of the other. This summer a co-ordinated plan has been evolved and a modern separation plant is presently in course of erection two miles from Fort McMurray and immediately adjoining a 20-foot face of tar sands running 14 per cent. bitumen. Through this plant it is hoped to ascertain with accuracy the cost of separation under various methods and provide authoritative data that will lead to early development on a commercial basis.

Concurrently with this has come the use in a commercial way by the Standard Oil interests as late as June last of a new method of separating gasoline from tar sands. It is called the Burgess process. According to S. C. Ellis of the federal department of mines, this process has completely revolutionized the possibility for early and profitable separation. Under former methods the tar sands yielded in gasoline approximately 40 per cent. of the crude oil content. Under the new process that percentage is increased to 105 per cent.

It is no exaggeration to call the volume of these tar sands "stupendous." Outcroppings are visible at innumerable points for more than 50 miles down the Athabaska river. Some of these expose a solid face of 50, 60 and even 75 feet. Perhaps the most impressive deposits are those immediately adjoining Fort McMurray—some on the Athabaska river and others on its tributary, Horse creek.

It has been said that Fort McMurray tar sands are sufficient to pave all the roads of the prairie provinces. Now there is in prospect their utilization for gasoline content as well as road building purposes. This in turn has given prospect of a large oil refinery located either at Fort McMurray itself or Edmonton, 300 miles to the south.

Thus does the present movement for industrialization in the prairie provinces proceed apace.

The Spirit of the North

PEACE RIVER fully developed, will widen Canada's occupied territory to that of United States between Chicago and New Orleans. This comparison illustrates Peace River's potential contribution to a new Canadian consciousness.

Our greatest national weakness today is narrowness of settlement along the American border. It is the root cause of many of our economic problems. More serious still, it engenders a hesitancy in national spirit and lack of breadth in national outlook.

United States from Chicago to New Orleans is no mean country. There is breadth there for countless channels of vigorous national life.

Canada has equal breadth even in its agricultural area. The present movement into Peace River is bringing that larger vision to the Canadian people.

Will Promote Canadian Unity

Peace River will make a second contribution in conjunction with the mineralized areas that border it on three sides. Their joint and balanced development will promote a unity of interest and purpose between East and West. It will provide in the west a demonstration of that interdependence of agriculture and industry which is already in daily evidence in other parts of Canada, but heretofore has had to be viewed from a distance by those in the great agricultural areas of the prairie provinces.

There is something about the far north that develops strength, not in body alone, but in mind, in purpose, in initiative, in resourcefulness. Side by side with these elements of character there has become inherent in the people of Alberta's northern hinterland that kindness, hospitality and capacity for sacrificial service that are so often found among pioneer peoples. These two quite different types of qualities are already blended in a character that is individu-

alistic and distinctively typical of Peace River. Canada's national character will gain alike in strength and in tenderness through the infusion of this new spirit of Alberta's north.

These considerations give a new breadth and depth to the vision of Alberta's premier with which this series started—a vision of development in Peace River during his own lifetime in which farm homes would be occupied by a million people and agricultural production would be developed to a point exceeding that of the three prairie provinces today. Already Peace River, with only one-thirtieth of a million people on its farm lands, has stirred the imagination, quickened the spirit, and influenced the character and purpose of the Canadian people as no other like area has done. Who shall estimate the flood tide of its influence when its present farm population has been increased 30-fold, when to this has been added a corresponding urban population, and when the men and the women whose lives and characters have been developed under the favoring conditions of its northern latitudes have taken their full place in the affairs of this dominion?

Three Great Needs of Peace River

THE Peace River country has three major needs today.

First, and most pressing, is the need of branch railways. Eighty per cent of the 10,000 new farm locations of the past 19 months are more than 25 miles from existing railroad facilities; large numbers are 50, 75 and 100 miles distant. Even Pouce Coupe prairie, where extensive settlement has been for many years is still, at its centre of population, over 60 miles from the end of steel at Hythe.

Charters for four proposed extensions were granted last spring to the Canadian Pacific railway and the Canadian National railway as joint owners of the Northern Alberta railways. These follow the general lines of settlement penetration both actual and prospective. Construction under these charters would vastly improve the economic position of thousands of present settlers and attract other thousands to the territory they would serve. It is imperatively necessary in the interests of the Peace River country that this construction be commenced next spring.

Direct Outlet Real Need

Closely related to branch railways is the problem of a direct outlet to the Pacific coast. That also is a real need which should not be longer delayed. Nor will it be if the vision that inspired Alberta to provide the present railroad from Edmonton to the Peace is seen by those various interests to which we must look for co-operation in securing a more direct outlet to tidewater. As between the problem that faced the government of Alberta when the present railroad was constructed and that associated with the building of a direct outlet to the Pacific there is no real comparison. For the former project Alberta has advanced in cash or credit over \$20,000,000 and its main commitment was given at a time when Peace River's population was less than 2,000 and that of all Alberta was less than 400,000. Today Peace River has a resident

population exceeding 40,000 and there is now a record of production and an extent of known agricultural land sufficient to guarantee sustaining power for a million people on its farms alone. Surely the vision that led Alberta to back its northern pioneers when they were few in number, when their chief assets were faith and courage, and when but little was known of the more distant parts of their new country will find its counterpart today in a new conception of Peace River as it actually is and an inspiration therefrom that will give to Peace River that which it most needs for the attainment of its full economic destiny.

Clearing Policy Needed

Peace River's third great need is a sound broad-visioned policy for the clearing and settling of those stretches of fertile, timber-covered soil, with which its open prairies are interspersed. This is essential to the concentration of settlement with reasonable density and within reasonable geographical bounds. Without it the tendency will be in future, as it has been in the past, to jump over these wooded areas into the next available prairie. This has the inevitable result of scattering population and intensifying the problem of railroad and highway transportation, of telegraph and telephone communication, and of public services generally.

Some there are who advocate the wholesale burning of one after another of these wooded areas under government control. Others oppose that policy on the dual ground of danger of soil-burning and loss of natural shelter for cattle and wood for fuel. Another group would solve the problem through a gradation of fees for homestead lands that would offer a monetary inducement to those who would take up wooded areas. Still another group would have our governments aid those settlers who are willing to clear such land by paying them a stated sum per acre as cleared and receiving a return thereof in annual payments spread over a number of years and against the security of the cleared land.

Should Grapple With Problems

Information regarding these areas and their soil is too incomplete to justify any final judgment regarding this problem. But it is sufficiently serious to be regarded as one of the

three major problems of the country and one with which both federal and provincial governments should grapple in close co-operation and with the aid of soil and timber experts.

Besides these there are many problems of smaller proportions or lesser urgency. There is, for example, the problem of water supply in certain areas but this is presently receiving the attention of the provincial government. Two other problems require prompt action by the federal government, viz: the pushing of survey work into unsurveyed areas where settlement is presently taking place, and the extension of existing telegraph facilities, through either conditional sale of the government telegraph line to private telegraph companies or the providing of necessary extensions by the government itself. Another need for a large portion of the Peace River country—Grande Prairie, Pouce Coupe, and the De Bolt and Sturgeon Lake districts—is a more direct highway connection with Edmonton, either through a new highway from De Bolt to Whitecourt, or through a cut-off from the present Peace River highway at High Prairie to De Bolt.

Will Hasten Development

Wise solution of these various problems—particularly the three major ones first mentioned—will hasten materially the development of the whole Peace River country. That in turn will quicken the magnificent and varied contribution which that great area will ultimately make to Canada as a whole. In the solution of these problems the pioneers of the Peace River country have a right to ask, as they do, the earnest, sincere and unbiased judgment of their fellow-citizens of Canada. Through the eyes of faith they saw two decades ago the fertile valleys of the Peace, dotted with 10,000 farms as we see them in actuality today and with the scores of thousands that will be there tomorrow. That faith led them into high endeavor and today a thankful nation rejoices in its bountiful fruitage. But the sacrifices these pioneers have made in demonstrating to Canada what the Peace River country really is gives them a right to ask of Canada those things that are needed for the realization of their vision and for the moderation of the conditions under which they are continuing to labor in Canada's interests as well as their own.

